Psittacosis
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Psittacosis

Overview [1,2]

For a complete description of psittacosis, refer to the following texts:

- Control of Communicable Diseases Manual (CCDM).
- Red Book, Report of the Committee on Infectious Diseases.

Case Definition [3]

Clinical description

An illness characterized by fever, chills, headache, photophobia, cough, and myalgia

Laboratory criteria for diagnosis

- Isolation of *Chlamydophila psittaci* (formerly *Chlamydia psittaci*) from respiratory secretions, or
- Fourfold or greater increase in antibody against *C. psittaci* by complement fixation or microimmunofluorescence (MIF) to a reciprocal titer of ≥32 between paired acute- and convalescent-phase serum specimens, or
- Presence of immunoglobulin M antibody against *C. psittaci* by MIF to a reciprocal titer of ≥16

Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

Probable: a clinically compatible case that is epidemiologically linked to a confirmed case or that has supportive serology (e.g., *C. psittaci* titer of ≥32 in one or more serum specimens obtained after the onset of symptoms)

Comment:

The serologic findings by CF may also occur as a result of infection with *Chlamydia pneumoniae* or *Chlamydia trachomatis*. The MIF is more sensitive and specific than CF for infection with *C. psittaci*, but availability of this newer test may be more limited.

Information Needed for Investigation

- **Verify the diagnosis**. Determine what laboratory tests were conducted and the results.
- **Establish the extent of illness**. Determine if household or other close contacts are, or have been, ill by contacting the health care provider, patient or family member.
- **Determine if a potential reservoir of infection exists in your community that may produce more cases.**

- **Contact the Regional Communicable Disease Coordinator** if an outbreak is **suspected**, or if cases are in high-risk settings such as child care, a medical facility, or long term care.
- **Contact the Bureau of Child Care** (573-751-2450) if cases are associated with a childcare facility.
- **Contact the Section for Long-term Care Regulations** (573-526-0721) if cases are associated with a long-term care facility.
- **Contact the Bureau of Health Facility Regulation** (573-751-6303) if cases are associated with a hospital or hospital-based long-term care facility.

Notification And Control Measures

Determine the source of infection.

- Psittacosis is rarely transmitted person-to-person. Most human cases may be traced back to contact with infected birds. Infected birds may exhibit overt signs of illness or be asymptomatic. Parakeets, parrots, and cockatiels have been the primary reservoir of infection but canaries, finches, pigeons, doves, chickens, turkeys, and many other species of birds may become infected.
- Ask about the patient's occupation, name, and location of employer. Interview the patient about job duties, if it appears the individual may have contracted the disease at work. Ask about patient contact with pet birds, live poultry, and other activities that would have exposed the individual to airborne dust contaminated with bird droppings or respiratory secretions.
- Identify symptomatic household members, associates, or co-workers and urge them to contact their physician for a medical evaluation.
- Although there is no epidemiologic evidence of increased risk to the very young, the elderly, or the immunocompromised, more rigorous testing should be considered for birds in contact with these individuals due to the potentially severe nature of this disease in humans.
- Individuals who have suspect, sick, or dying birds or poultry should consult a veterinarian. The Regional Communicable Disease Coordinator will contact the State Public Health Veterinarian who will contact the Missouri Department of Agriculture, as needed.
- It is imperative that individuals in contact with infected birds or contaminated materials take precautions to prevent infection, as described in the "*Chlamydophila* Compendium."[4] Precautions include the use of protective clothing, gloves, a disposable surgical cap, and an appropriately fitted respirator with N95 or higher rating. Information pertaining to respirator use can be obtained from the National Institute of Occupational Safety and Health: Safety and Health Topics, Respirators (http://www.cdc.gov/niosh/npptl/topics/respirators/ (March 2005)

Control Measures
See the Control of Communicable Diseases Manual, Psittacosis, "Methods of control."

See the Red Book, *Chlamydia (Chlamydophila) psittaci*, "Control Measures."

See the Compendium of Measures To Control *Chlamydophila psittaci* (formerly *Chlamydia psittaci*) Infection Among Humans (Psittacosis) and Pet Birds, 2004. [4]

If the epidemiological data indicate a specific source of infection and the potential for ongoing transmission to humans, animal quarantine measures may be established. Animal quarantines or modified quarantines may be established by the local health authority, the Missouri Department of Health and Senior Services, and/or the Missouri Department of Agriculture.

Laboratory Procedures

Specimens:
Diagnosis of human cases is serological, based on a rising antibody titer between acute and convalescent sera specimens collected two to three weeks apart. Diagnostic testing is available through private laboratories. Cross reactions may occur with *C. pneumoniae* or *C. trachomatis* infections.

Confirmation by isolation of the organism from respiratory secretions is rarely attempted. Attempts to culture the organism in laboratories without specialized equipment has lead to outbreaks among laboratory personnel.

The Missouri State Public Health Laboratory (SPHL) no longer performs laboratory testing for psittacosis. Acute and convalescent sera specimens may be sent to CDC in special circumstances or for epidemiological purposes. Specimens should not be collected without prior authorization by the Regional Communicable Disease Coordinator. They will be sent through the SPHL to CDC. Please advise the submitter that serum specimens are accepted for epidemiological purposes but not for diagnosis and frequently several months may elapse before results are received. Additional information on laboratory procedures can be obtained from the Regional Communicable Disease Coordinator or from staff at the SPHL. The SPHL telephone number is 573-751-0633. The web site is http://www.dhss.mo.gov/Lab/index.html (March 2005)

The University of Missouri's Veterinary Medical Diagnostic Laboratory (VMDL) in Columbia offers testing for *C. psittaci* infection/harborage of birds. Interested individuals and their veterinarians may contact the VMDL for a schedule of fees and specimen shipping requirements. The telephone number of the VMDL is 1-800-862-8635 or 573-882-6811. The web site is http://www.cvm.missouri.edu/vmdl. (March 2005)

Reporting Requirements

Psittacosis is a Category II disease and shall be reported to the local health authority or to the Missouri Department of Health and Senior Services within three days of first knowledge or suspicion by telephone, facsimile or other rapid communication.

1. For all cases complete a "Disease Case Report" (CD-1).
2. For confirmed and probable cases complete a "Record of Investigation of Communicable Disease"(CD-2).
3. Entry of the completed CD-1 into MOHSIS negates the need for the paper CD-1 to be forwarded to the Regional Health Office.
4. Send the completed secondary investigation form to the Regional Health Office.
5. All outbreaks or "suspected" outbreaks must be reported as soon as possible (by phone, fax or email) to the Regional Communicable Disease Coordinator. This can be accomplished by completing the Missouri Outbreak Surveillance Report (CD-51).
6. Within 90 days of the conclusion of an outbreak, submit the final outbreak report to the Regional Communicable Disease Coordinator.

References

1. Control of Communicable Diseases Manual. "Psittacosis (*Chlamydia psittaci* infection, Ornithosis, Parrot fever, Avian chlamydiosis)." Heymann, David L., ed 18th ed. Washington, DC: American Public Health Association, 2004: 432-434.
2. American Academy of Pediatrics. "*Chlamydia (Chlamydophila) psittaci* (Psittacosis, Ornithosis)." In: Pickering LK., ed. *Red Book: 2003 Report of the Committee on Infectious Diseases*. 26th ed. Elk Grove Village, IL. American Academy of Pediatrics; 2003: 237-238.
3. Centers for Disease Control and Prevention. *Case Definitions for Infectious Conditions Under Public Health Surveillance*. MMWR 1997: 46 (No. RR-10). "Psittacosis (*Chlamydia psittaci*) (Ornithosis)," 1996, http://www.cdc.gov/epo/dphsi/casedef/psittacosiscurrent.htm. (March 2005)
4. National Association of State Public Health Veterinarians, Compendium of Measures To Control *Chlamydophila psittaci* (formerly *Chlamydia psittaci*) Infection Among Humans (Psittacosis) and Pet Birds, 2004. http://www.avma.org/pubhlth/psittacosis.asp. (March 2005)

Other Sources of Information

1. Mandell, Douglas and Bennett's *Principles and Practice of Infectious Diseases*. "*Chlamydia psittaci* (Psittacosis)." G. Mandell, J. Bennett, R. Dolin, eds. 6th ed. Vol. 2, 2005: 2251, 2256-2258.
2. Bacterial Infections of Humans - Epidemiology and Control. "Chlamydial Infections." Schachter, Julius, and Alexander, E. Russell. 3rd ed. Eds. Alfred S. Evans and Philip S. Brachman. New York: Plenum, 1998: 197-222.

3. The Merck Veterinary Manual. 8th Ed. Ed. Susan E. Aiello. Whitehouse Station, NJ: Merck & Co., Inc., 1998. http://www.merckvetmanual.com/mvm/index.jsp (March 2005) (search "psittacosis" or "psittaci").
4. Zoonoses and Communicable Diseases Common to Man and Animals. "Avian Chlamydiosis." 2nd ed. Eds. Pedro Acha and Boris Szyfres. Pan American Health Organization, Washington, DC, Scientific Publication No. 503, 1994: 250-255.

Web Resources and Information

1. Psittacosis Fact Sheet, Maryland Department of Health (several languages available) http://www.edcp.org/factsheets/psittfact.html. (March 2005)
2. Psittacosis, Farhad Arjomand, & Lessnau, K.D., eMedicine Journal, May 3 2002, V 3, N 5 http://www.emedicine.com/med/topic1951.htm (March 2005)

Psittacosis

FACT SHEET

What is psittacosis?

Psittacosis is a bacterial disease also referred to as parrot fever or ornithosis. The agent that causes this disease is *Chlamydophila psittaci*. The symptoms of the disease are variable and may include fever, rash, muscle aches, chills, and a dry cough. It may produce pneumonia, which may not be apparent except on x-ray. The disease is transmitted from birds to people. Parakeets, parrots, and cockatiels are among the main carriers of infection. All birds are susceptible to the disease and outbreaks have occurred on poultry farms, in pet shops, and in processing plants.

Who gets psittacosis?

Anyone can get psittacosis if they are exposed to infected birds. Occupations at highest risk in the United States are bird breeders, poultry processing workers, farmers who raise poultry, veterinarians, pet shop owners and their employees. Sporadic cases also occur in individual households that have pet birds.

How do humans get psittacosis?

The infection is acquired by inhaling the agent in dusts from dried respiratory secretions and droppings of infected birds.

How would I know if my birds have psittacosis?

Birds may be harboring the bacteria without any apparent ill effects. When birds develop the disease they become quiet, withdrawn, lose weight, and exhibit a pronounced change in their feces or droppings. If you believe your pet birds or poultry may be infected, you should contact your veterinarian who can arrange for the appropriate laboratory testing.

What are the symptoms of psittacosis in people?

Fever, muscle aches, chills, headache, and a dry cough. A rash may also be present.

How long is the incubation period for psittacosis?

The incubation period is one to four weeks.

How is psittacosis diagnosed?

Since the disease is uncommon in the United States, the diagnosis usually requires laboratory tests. Several different methods are available from commercial laboratories to aid the clinician in diagnosing the disease. Exposure history is very important for the diagnosis.

What is the treatment for psittacosis?

Antibiotics such as tetracycline or erythromycin for 10 to 14 days are usually sufficient.

Can human to human transmission of psittacosis occur?

If one person has pneumonia caused by this agent and he/she coughs, the infection can theoretically spread to other people. However, this is an unlikely form of transmission because the cough is usually non-productive and the ill individual normally does not expel the bacteria from the lungs.

What possible complications may arise from an untreated infection?

Encephalitis, meningitis, endocarditis, and neurological complications may occur. Severe pneumonia or death may occur in the elderly or immunocompromised.

How can psittacosis be prevented?

The most important measures to control the disease are already in place in the United States. For the most part, commercial importation of psittacine (parrot and parrot-like) birds ended in 1993 with the implementation of the Wild Bird Conservation Act. Persons who import birds must comply with federal laws that include regulatory requirements such as mandatory quarantines and prophylactic antibiotic treatment. Ongoing programs conducted by the state departments of agriculture provide for prevention of the spread of the disease in domestic poultry.

Consumers should purchase all birds only from legitimate retailers. Most pet shops, hatcheries, and retailers maintain records that aid in the traceback of infection should a case arise in one or more birds. This helps ensure that birds are treated, as are any persons who have handled or purchased the birds.

Individuals who may have contact with infected birds or contaminated materials should take precautions to prevent infection, such as wearing protective clothing, gloves, a disposable surgical cap, and an appropriately fitted respirator with N95 or higher rating. Information pertaining to respirator use can be obtained from the National Institute of Occupational Safety and Health: Safety and Health Topics, Respirators (http://www.cdc.gov/niosh/topics/respirators). (March 2005)

Missouri Department of Health and Senior Services
Section for Communicable Disease Prevention
Phone: (866) 628-9891 or (573) 751-6113

MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES

DISEASE CASE REPORT

REPORT TO LOCAL PUBLIC HEALTH AGENCY

1 DATE OF REPORT	**2** DATE RECEIVED BY LOCAL HEALTH AGENCY
_____ / _____ / _____	_____ / _____ / _____

3 NAME (LAST, FIRST, M.I.)	**4** GENDER ☐ MALE ☐ FEMALE	**5** DATE OF BIRTH _____ / _____ / _____	**6** AGE	**7** HISPANIC ☐ YES ☐ NO ☐ UNKNOWN

8 RACE (CHECK ALL THAT APPLY) ☐ BLACK ☐ ASIAN ☐ PACIFIC ISLANDER ☐ WHITE ☐ AMERICAN INDIAN ☐ UNKNOWN	**9** PATIENT'S COUNTRY OF ORIGIN	**10** DATE ARRIVED IN USA _____ / _____ / _____

11 ADDRESS (STREET OR RFD, CITY, STATE, ZIP CODE)	**12** COUNTY OF RESIDENCE	**13** TELEPHONE NUMBER ( )

14 PREGNANT ☐ YES (IF YES NUMBER OF WEEKS _____) ☐ NO ☐ UNKNOWN	**15** PARENT OR GUARDIAN	**16** RECENT TRAVEL OUTSIDE OF MISSOURI OR USA ☐ YES ☐ NO IF YES, WHERE _____	**17** DATE OF RETURN _____ / _____ / _____

18 OCCUPATION	**19** SCHOOL/DAY CARE/WORKPLACE ADDRESS (STREET OR RFD, CITY, STATE, ZIP CODE)

20 WORK TELEPHONE NUMBER ( )	**21** OTHER ASSOCIATED CASES ☐ YES ☐ NO ☐ UNKNOWN IS REPORT PART OF AN OUTBREAK ☐ YES ☐ NO ☐ UNKNOWN	**22** TYPE OF COMPLAINT/OUTBREAK ☐ FOODBORNE ☐ WATERBORNE ☐ OTHER (SPECIFY) _____

23 WAS PATIENT HOSPITALIZED ☐ YES ☐ NO ☐ UNKNOWN	**24** PATIENT RESIDE IN NURSING HOME ☐ YES ☐ NO ☐ UNKNOWN	**25** PATIENT DIED OF THIS ILLNESS ☐ YES ☐ NO ☐ UNKNOWN

26 CHECK BELOW IF PATIENT OR MEMBER OF PATIENT'S HOUSEHOLD (HHLD):	PATIENT			HHLD MEMBER		
	YES	NO	UNK	YES	NO	UNK
IS A FOOD HANDLER						
ATTENDS OR WORKS AT A CHILD OR ADULT DAY CARE CENTER						
IS A HEALTH CARE WORKER						

27 NAME OF HOSPITAL/NURSING HOME	
28 HOSPITAL/NURSING HOME ADDRESS (STREET OR RFD, CITY, STATE, ZIP CODE)	
29 REPORTER NAME	**30** TELEPHONE NUMBER ( )

31 REPORTER ADDRESS (STREET OR RFD, CITY, STATE, ZIP CODE)	**32** TYPE OF REPORTER/SUBMITTER ☐ PHYSICIAN ☐ OUTPATIENT CLINIC ☐ PUBLIC HEALTH CLINIC ☐ HOSPITAL ☐ LABORATORY ☐ SCHOOL ☐ OTHER _____

33 ATTENDING PHYSICIAN/CLINIC NAME ADDRESS (STREET OR RFD, CITY, STATE, ZIP CODE)	**34** TELEPHONE NUMBER ( )

35 DISEASE NAME(S)	**36** ONSET DATE(S) _____ / _____ / _____ _____ / _____ / _____	**37** DIAGNOSIS DATE(S) _____ / _____ / _____ _____ / _____ / _____	**38** DISEASE STAGE/ RISK FACTOR	**39** PREVIOUS DISEASE/STAGE	**40** PREVIOUS DISEASE DATE(S) _____ / _____ / _____ _____ / _____ / _____

41 - DIAGNOSTICS

TEST DATE (MO/DAY/YR)	TYPE OF TEST	SPECIMEN TYPE	COLLECTION DATE (MO/DAY/YR)	QUALITATIVE / QUANTITATIVE RESULTS	REFERENCE RANGE	LABORATORY NAME/ADDRESS (INCLUDE STREET OR RFD, CITY, STATE, ZIP CODE)

42 - TREATMENTS

TREATED (Y/N/UNK)	REASON NOT TREATED	TYPE OF TREATMENT	DRUG	DOSAGE	TREATMENT DATE (MO/DAY/YR)	TREATMENT DURATION (IN DAYS)	PREVIOUS TREATMENT	PREVIOUS LOCATION (LIST CITY, STATE)

43 - SYMPTOMS

SYMPTOM (IF APPLICABLE)	SYMPTOM SITE (IF APPLICABLE)	SYMPTOM ONSET DATE (MO/DAY/YR)	SYMPTOM DURATION (IN DAYS)

44 COMMENTS

NOTES FOR ALL RELEVANT SECTIONS:

- Stages, risk factors, diagnostics, treatments, and symptoms shown below are examples. To see a more complete listing, please go to ***http://www.dhss.state.mo.us/Diseases/DDwelcome.htm***. You may also contact the Office of Surveillance at 1-800-392-0272 for additional information or to report a case.
- All dates should be in Mo/Day/Year (01/01/2001) format.
- All complete addresses should include city, state and zip code.
- Required fields referenced below are italicized and bold, however fill form as complete as possible.

(1) Date of Report -- date sent by submitter of document.

(2) Date received will be filled in by receiving agency.

(3-8) **CASE DEMOGRAPHICS/IDENTIFIERS:** ***Last name, First Name,*** Gender, ***Date of Birth,*** Hispanic, Race - please check all that apply

(23) Was patient hospitalized due to this illness?

(32) Type of reporter/submitter (doctor, nursing home, hospital, laboratory) (33-34) Attending physician or clinic (full physician name and degree, address, phone)

DISEASE: ***(35) Disease name or name(s), (36) Onset date(s), (37) Diagnosis Date(s)***

(38) Disease Stage or Risk Factor

Syphilis	**Gonorrhea or Chlamydia**	**TB Infection**
Primary (chancre present)	Asymptomatic	Contact to TB case
Secondary (skin lesions, rash)	Uncomplicated urogenital (urethritis, cervicitis)	Immunocompromised
Early Latent (asymptomatic < 1 year)	Salpingitis (PID)	Abnormal CXR
Late Latent (over 1 year duration)	Ophthalmia/conjunctivitis	Foreigner/Immigrant
Neurosyphilis	Other (arthritis, skin lesions, etc)	IV Drug/Alcohol Abuse
Cardiovascular		Resident, correctional
Congenital		Employee, correctional
Other		Over 70
		Homeless
		Diabetes
		Healthcare worker
		Converter/2 yrs ≥ 10
		Converter/2 yrs ≥ 15

(39) Previous Disease/Stage (if applicable) ***(40) Previous Disease Dates (if applicable)***

(41) Diagnostics (Please Attach Lab Slip)

Test Type

Hepatitis	**TB**	**Other**
Igm Anti-HBc	Not Done	Elisa
Anti-HBs	Mantoux	Western Blot
Anti-HBc Total	Multiple puncture device	Culture
Igm Anti-HAV	X-Ray	ALT
HBsAg	Smear	AST
Hep C	Culture	

Specimen Type (blood, urine, CSF, smear, swab), **Collection Date** (Mo/Day/Yr), **Qualitative** (negative, positive, reactive), **Quantitative Results** (1:1, 2.0 mm reading,) **Reference Range** (1:1neg, 1:64 equivocal, 1:128 positive, > 2 positive), **Laboratory** (name, address)

(42) TREATMENT

Reason not treated	**Drug**
False positive	**TB**
Previous treated	Isoniazid
Age	Ethambutol
	Pyrazinamide
	Rifampin

(43) SYMPTOMS:

Symptom (jaundice, fever, dark urine, headache) **Symptom Site** (head, liver, lungs, skin), **Symptom Onset Date** (Mo/Day/Yr) and **Symptom Duration** (in days)

(44) **Comments:** Attach additional sheets if more comments needed.

MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES

RECORD OF INVESTIGATION OF COMMUNICABLE DISEASE*

Patient's Name

Address | City | State | Zip Code

Birth / / | Sex ☐M ☐F | Race ☐W ☐N ☐Other | County of Residence

Parent's Name If Not Adult | Phone

Hospitalized ☐Yes ☐No | Hospital Name | Date of Onset

FOR CODING ONLY

County		City
Twnshp.		Disease
Hospital		Source
Physician		

Physician's Name | Phone Number

Address | Date

Previous Address (if significant) | Date Moved

Place Employed or School Attended | Occupation

Date Reported | How did you first learn of this case? | Date

Disease _____ ☐ Confirmed ☐ Suspected or } at beginning of investigation.

Chief Clinical Symptoms with Dates: _____

Treatment (type, amount, dates): _____

DIAGNOSTIC LABORATORY TESTS ON PATIENT

Type of Specimen	Date Collected	Result	Name of Laboratory

Are there other associated cases? _____ If yes, how many, and how associated? _____

Household Sanitation: ☐ Good ☐ Fair ☐ Poor

Milk Supply _____

Water Supply _____

(Continued on reverse side)

Other Pertinent Epidemiological Data (exposure to birds and animals, insect bites, vaccination, travel, etc.): _____

CONTACTS (Household and Other)

Name and Address	Age / Sex	Relation to Patient	Similar Illness? Onset Date	Laboratory Specimen	Date Collected	Result

Narrative and Follow-up Notes: _____

Probable Source _____

☐ Recovered ☐ Died Date of Death _____ Cause of Death _____

Investigated by _____ Final Diagnosis _____

Name of Agency _____ Date _____

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER
services provided on a nondiscriminatory basis